

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>TP103066/TPU</b>	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. <b>PCT/FI2004/050106</b>	International filing date ( <i>day/month/year</i> ) <b>24-06-2004</b>	Priority date ( <i>day/month/year</i> ) <b>30-06-2003</b>
International Patent Classification (IPC) or national classification and IPC <b>H05K 1/02, H04B 10/00, G02B 6/43</b>		
Applicant <b>Asperation OY et al</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
  - a. ☐ (*sent to the applicant and to the International Bureau*) a total of \_\_\_\_\_ sheets, as follows:
    - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - b. ☐ (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:
 

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand  <b>26-04-2005</b>	Date of completion of this report  <b>11-10-2005</b>
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer  <b>Bo Gustavsson/MN</b> Telephone No. +46 8 782 25 00

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI2004/050106

Box No. I Basis of the report

1. With regard to the language, this report is based on:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b))
- ☐ publication of the international application (Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the claims:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing *(specify)*: \_\_\_\_\_
- ☐ any table(s) related to the sequence listing *(specify)*: \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing *(specify)*: \_\_\_\_\_
- ☐ any table(s) related to the sequence listing *(specify)*: \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI2004/050106

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	<u>3-5,8-11,13</u>	YES
	Claims	<u>1,2,6,7,12</u>	NO
Inventive step (IS)	Claims	<u>3,5,8,10,11,13</u>	YES
	Claims	<u>1,2,4,6,7,9,12</u>	NO
Industrial applicability (IA)	Claims	<u>1-13</u>	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

Documents cited in the International Search Report:

D1: Patent Abstract of Japan, abstract of JP 2000352634 A

D2: US 3628039 A1

D3: Patent Abstract of Japan, abstract of JP 2003098399 A

D4: US 6396968 B2

D5: Patent Abstract of Japan, abstract of JP 2001141965 A

Independent claims 1 and 6:

The invention as claimed in claims 1 and 6 is not considered to be novel or to involve an inventive step as requested by Article 33 (2) and (3) PCT, for the following reasons:

In D1, being regarded as representing the closest prior-art, a method and a device for transmitting a signal in an optical module is described. According to the document, an optical module (28) is formed on a board (14) carrying electronic components. In the optical module, one or more optical channels (19a, 19b) are formed, at least partly having the shape of an ellipse. An optical fiber (12) is connected to one end of the optical channel(s), such that the exit port of the fiber is positioned at or near one focal point of the ellipse(s). An optical module (15, 16) is positioned at (or near) the other focal point(s) of the ellipse(s) such that optical signals are being transmitted between the optical fiber and the optical module(s) through the optical channel(s). Here, the exit port of the fiber may function as a transmitter and the optical module as a receiver, or vice versa.

The invention as claimed in claims 1 and 6 therefore lacks novelty in view of D1.

.../...

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

Dependent claims 2, 7 and 12:

As already shown, the optical channel(s) described in document D1 is(are) shaped at least partly as an ellipse, having a transmitter in one focal point and a receiver in the other focal point.

The invention as claimed in claims 2, 7 and 12 therefore lacks novelty.

Dependent claims 4 and 9:

As shown in document D1, two optical channels are formed in the optical module, each being formed at least partly as an ellipse and where the optical channels unite at one end to share one focal point, the one at which the optical fiber is positioned. The other focal point of each optical channel is separated from each other.

A person skilled in the art having knowledge of D1 would easily be guided towards a solution according to the claimed invention.

The invention as claimed in claims 4 and 9 therefore lacks inventive step.

Dependent claims 3, 5, 8, 10, 11, 13:

The invention as claimed therein is considered to be novel and to involve an inventive step, the subject-matter specified therein not being shown or suggested by any of the cited documents.

The invention is also considered to have industrial applicability.